

Claims

- [1] An emergency release apparatus comprising:
 - an air tube having an accommodation space for an evacuee and for protecting the evacuee from an external impact;
 - a rope connected to the air tube, having one end fixed to an evacuation place, and having a length long enough to reach the ground; and
 - a controller mounted in the air tube and connected to the rope, for descending the air tube in which the evacuee is accommodated to the ground at a safe speed.
- [2] The apparatus of claim 1, wherein the air tube comprise:
 - an external member formed as an oval shape; and
 - an internal member having a gas filling space between the external member and having a space therein for accommodating the evacuee.
- [3] The apparatus of claim 2, wherein a width between the external member and the internal member is formed to be 10~15 cm enough to protect the evacuee accommodated in the air tube from an external impact.
- [4] The apparatus of claim 1, wherein the air tube is formed of a fireproofing material.
- [5] The apparatus of claim 1, wherein an entry for allowing the evacuee to enter the air tube is formed at a lateral surface of the air tube in a longitudinal direction, and the entry is provided with a zipper for opening and closing the entry.
- [6] The apparatus of claim 1, wherein a pair of arm openings for allowing the evacuee's arms to extend outward, a pair of leg openings for allowing the evacuee's legs to extend outward are respectively formed at a front surface of the air tube, and a zipper is respectively provided at the arm openings and the leg openings.
- [7] The apparatus of claim 1, wherein a transparent window for allowing the evacuee to see outside when the evacuee is accommodated in the air tube is formed at a front surface of the air tube, and the transparent window is provided with an opening/closing member for opening and closing the transparent window.
- [8] The apparatus of claim 1, wherein a controller mounting portion for mounting the controller is formed at a front inner surface of the air tube, and rope guiding pipes connected to the controller and for passing the rope are respectively mounted at upper and lower ends of the controller mounting portion.
- [9] The apparatus of claim 8, wherein a rope passage for passing the rope is respectively formed at upper and lower ends of the controller, and a lever adjusted by the evacuee inside the air tube is mounted at a front side of the controller.
- [10] The apparatus of claim 1, wherein the rope has a length long enough to reach the

ground from each floor, and a connection ring for fixing the rope to a fixed object is respectively mounted at both ends of the rope.

[11] The apparatus of claim 1, further comprising a gas tank mounted at one side of the air tube and for storing compression gas to be supplied to the gas filling space of the air tube.

[12] The apparatus of claim 11, wherein the gas tank is mounted at a tank mounting portion mounted at a floor surface of the accommodation space of the air tube.

[13] The apparatus of claim 11, wherein a gas outlet of the gas tank is connected to the air tube by a gas supplying pipe, and the gas outlet is provided with an opening/closing valve for opening and closing the gas outlet.

[14] The apparatus of claim 1, further comprising an air bag installed at an inner floor surface of the air tube and for protecting an evacuee from an external impact generated when the air tube reaches the ground.

[15] The apparatus of claim 14, wherein the air bag is instantaneously swollen by an impact detecting portion installed at a lower surface of the air tube when an impact more than a preset value is generated, thereby protecting the evacuee accommodated in the air tube.

[16] The apparatus of claim 1, further comprising an air resisting portion mounted at an upper side of the air tube and for generating an air resistance so that the air tube can fall down without flipping a bottom portion thereof to a top portion thereof.

[17] The apparatus of claim 16, wherein the air resisting portion comprises:
a rod mounted at an upper end of the air tube;
a supporting axis fixed to the rod; and
a propeller rotatably mounted at the supporting axis.

[18] The apparatus of claim 16, wherein the air resisting portion is constructed as a plurality of air bars provided at an upper side of the air tube.

[19] The apparatus of claim 1, wherein the air tube is provided with a plurality of buffering protrusions for absorbing an impact when the air tube collides with the ground or a wall surface at an outer circumferential surface thereof.